

EXHIBIT O

GaAs IC SP4T Non-Reflective Switch DC-2 GHz



AS115-61

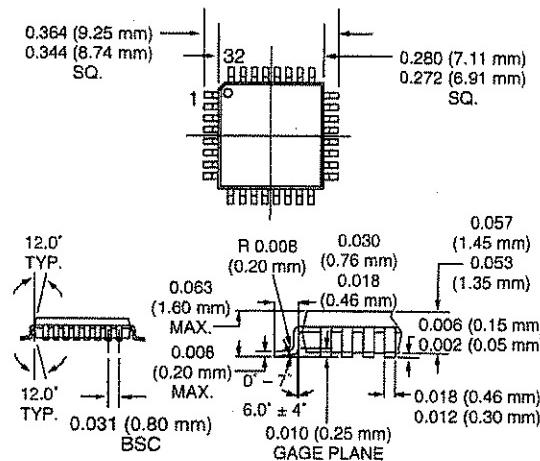
Features

- -3 V to -5 V Operation
- High Isolation (50 dB @ 0.9 GHz)
- Low Insertion Loss (0.7 dB @ 0.9 GHz)
- LQFP-32 Plastic Package
- Non-Reflective All Ports

Description

The AS115-61 is a high isolation SP4T FET IC non-reflective switch. The switch operates with 0 and -3 V or -5 V over the frequency range of DC-2 GHz. The insertion loss is 0.7 dB and isolation is 50 dB at 0.9 GHz. The switch is ideal for cellular base station switch matrices.

LQFP-32



Electrical Specifications at 25°C (0, -5 V)

Parameter ¹	Frequency ²	Min.	Typ.	Max.	Unit
Insertion Loss ³	DC-0.5 GHz DC-1.0 GHz DC-2.0 GHz		0.5 0.7 1.1	0.7 0.9 1.3	dB
Isolation	DC-0.5 GHz DC-1.0 GHz DC-2.0 GHz	50 45 35	58 51 39		dB
VSWR ⁴	DC-1.0 GHz DC-2.0 GHz		1.55:1 1.65:1	1.6:1 1.8:1	

Operating Characteristics at 25°C (0, -5 V)

Parameter ¹	Condition	Frequency	Min.	Typ.	Max.	Unit
Switching Characteristics ⁵	Rise, Fall (10/90% or 90/10% RF) On, Off (50% CTL to 90/10% RF) Video Feedthru			15 30 30		ns ns mV
Input Power for 1 dB Compression	0/-3 V 0/-5 V	0.50-2.0 GHz 0.50-2.0 GHz		+24 +30		dBm dBm
Intermodulation Intercept Point (IP3)	For Two-tone Input Power +13 dBm	0.50-2.0 GHz 0.05 GHz		+40 +29		dBm dBm
Control Voltages	$V_{Low} = 0$ to -0.2 V @ 20 μ A Max. $V_{High} = -3$ V @ 100 μ A to -5 V @ 500 μ A Max.					

1. All measurements made in a 50 Ω system, unless otherwise specified.

2. DC = 300 kHz.

3. Insertion loss changes by 0.003 dB/°C.

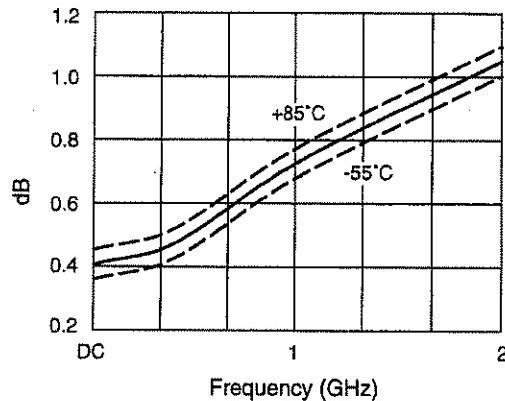
4. Input/output.

5. Video feedthru measured with 1 ns risetime pulse and 500 MHz bandwidth.

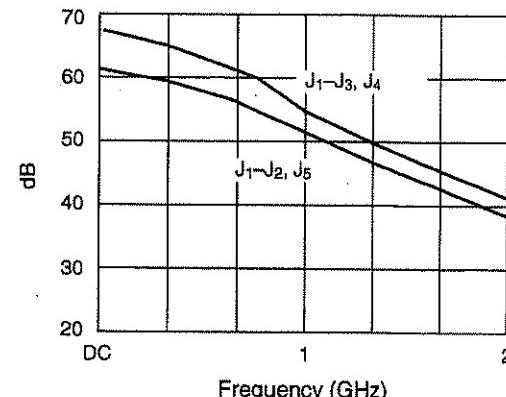
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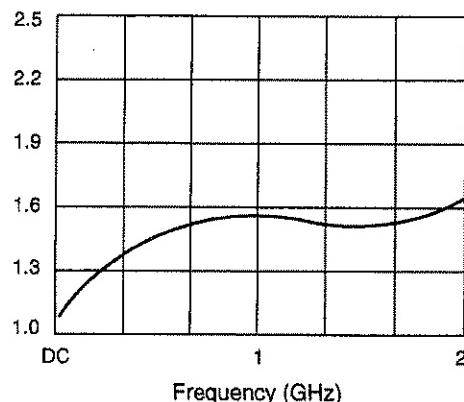
Typical Performance Data (0, -5 V)



Insertion Loss vs. Frequency



Isolation vs. Frequency

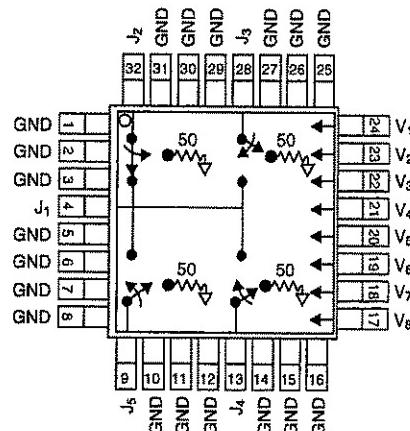


VSWR vs. Frequency

Absolute Maximum Ratings

Characteristic	Value
RF Input Power	2 W > 500 MHz 0/-7 V 0.5 W @ 50 MHz 0/-7 V
Control Voltage	+0.2 V, -10 V
Operating Temperature	-40°C to +85°C
Storage Temperature	-65°C to +150°C
Θ_{JC}	25°C/W

Pin Out



Truth Table

Insertion Loss	J ₃		J ₂		J ₅		J ₄	
Path J ₁ to:	V ₁	V ₂	V ₃	V ₄	V ₅	V ₆	V ₇	V ₈
J ₂	0	-5	-5	0	-5	0	-5	0
J ₃	-5	0	0	-5	-5	0	-5	0
J ₄	0	-5	0	-5	-5	0	0	-5
J ₅	0	-5	0	-5	0	-5	-5	0

This datasheet has been download from:

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Datasheets for electronics components.